

Treviranus, in a treatise recently published *, inclines to answer the last question in the affirmative, but he says that he cannot give any positive proof. I am therefore the more pleased to have made the foregoing observations, which seem to give such a proof in an incontestable manner. The pollen applied to the stigma of an ovarium containing no ovules, making this ovarium swell, proves that the pollen may act on the ovarium independently of the ovules; and if this is the case in Orchids, why should it not be the same in all other phanerogamous plants? If we admit that the ovules are enclosed more or less in a dark cavity, that of the ovarium, and therefore have not the power of preparing the nutritive substances themselves, but must receive them from the exterior green parts of the ovarium, we can easily imagine how the pollen, besides the direct action of its tubes on the formation of the embryo within the ovules, effects in the same direct manner the enlargement of the ovarium. We even see that, in Orchids, this last-mentioned action on the ovarium is primary—that not until this action has taken place do the ovules attain perfection and become suited for the other, embryo-forming power of the pollen-tubes. If the first power has not acted, the second cannot act. Whether the same may be the case in all other phanerogamous plants, we must leave to further but rather difficult observations.

Finally, it may be repeated that, at least in Orchids, if not in all plants, the pollen acts in two different ways: it effects the enlargement of the ovarium, and impregnates the ovules.

I close these short notices with the very just remarks of Robert Brown which are to be found at the end of his treatise on the fecundation of Orchideæ and Asclepiadæ:—"I even venture to add that, in investigating the obscure subject of generation, additional light is perhaps more likely to be derived from a further minute and patient examination of the structure and action of the sexual organs in Asclepiadæ and Orchideæ than from that of any other department either of the vegetable or animal kingdom."


XVI.—On the *European Species of the Genus Labrax.*

By Dr. A. GÜNTHER.

M. BARBOZA DU BOCAGE, Director of the Museum at Lisbon, has directed my attention to a remarkable difference in the dentition of the vomer, by which he was enabled to distinguish two forms of *Labrax* inhabiting the sea at Lisbon, viz. the true *Labrax Lupus* and a second, spotted species. Fortunately

* Verhandl. d. naturhist. Ver. für Rheinland u. Westph. 1862, p. 299.

the British Museum has received several examples collected at Gibraltar by Dr. Sclater, in two of which I have recognized the spotted form; whilst examples received from Alexandria, through Consul Petherick, cannot be referred to either of those two species, but evidently belong to a third. These three species, although readily distinguished by their vomerine teeth, are externally very similar to one another, so that it is not necessary to give a detailed description of them.

1. We retain the name of *Labrax Lupus* for the species which is the most common on the European coasts. The vomerine teeth form a simple subcrescentic transverse band . D. 9 | $\frac{1}{12-13}$. A. $\frac{3}{11-12}$. L. lat. 66-74. The body is almost always immaculate, and I have seen only one young specimen with small black spots on the back. British specimens have the scales on the hind part of the tail rather larger than those from more southern coasts; but this does not appear to me to be of specific value. The following synonyms ought to be referred to this species:—


Centropomus Lupus, Lacép. iv. p. 267.

Sciæna Labrax, Bloch, taf. 301.


— *diacantha*, Bloch, taf. 302.

Perca elongata, Geoffr., Descr. Egypte, Poiss. pl. 19. fig. 1.

— *sinuosa*, Geoffr. l. c. pl. 20. fig. 3.

2. The second species, observed by M. Bocage at Lisbon, of which we have two specimens from Gibraltar, is *Labrax punctatus*; it has the vomerine teeth arranged in an anchor-shaped band , extending backwards to the end of the vomer.

D. 9 | $\frac{1}{13}$. A. $\frac{3}{12}$. L. lat. 62. The upper parts of the body are constantly marked with small black spots. This is *Sciæna punctata*, Bloch, taf. 305.

3. The third species has the posterior process of the vomerine band very short . D. 9 | $\frac{1}{13}$. A. $\frac{3}{11-12}$. L. lat. 57. The upper parts of the body are black-spotted, as in the preceding species. Two specimens sent by Consul Petherick from Alexandria are perfectly alike. This is probably the species figured by Geoffroy St. Hilaire in the 'Description de l'Egypte,' Poiss. pl. 20. fig. 2, as *Perca punctata*—a name which cannot be retained, as it belongs to the preceding species, and instead of which we propose that of *Labrax orientalis*.